

common temperature to the atmosphere in its ordinary state of humidity, it re-absorbs a certain proportion of water, varying according to the compactness of the wood, and to the quantity of deliquescent saline matters present." In reference to these two assigned reasons that govern the absorption of water by woods, I would draw attention again to the Mosaicum tank in comparison with the beech wood; the relative specific gravity or density of the former to the latter is as 7442 to 7498, being very nearly equal, yet the absorbing power of the two is very different, being in the proportion of 82 to 185. These facts render it incumbent on me to recommend it to the attention of ship-builders.

"By Table X. it will be observed that the two kinds of flag stone, termed Shetland and Caithness, absorb very little moisture. Having been previously informed of this property, I was desirous of examining them, and certainly they maintain the character determined from the observation of practical men. Their conducting power for heat, I had not an opportunity of calculating, but if I might venture an opinion, I suspect they would range like Yorkshire flag stone; if so, they are quick conductors, or solid materials for flagging rooms where warmth is required; nevertheless, they will be found as valuable materials for arresting the ascent of moisture in the walls of houses; and speaking from memory, I believe the Caithness flag has thus been employed in the North of England with great success.

"The Carrara marble mentioned are those generally employed in constructing mantelpieces; it is curious to observe, that though their density is the same, yet the hardest specimen absorbed more than twice as much water as the softer marble.

"Portland stone, Bath stone, and the stones employed in erecting the new Houses of Parliament, may be considered as spongy materials for absorbing water; their relative conducting power may be referred to in the first column in Table IX. It will also be seen that Napoleon marble is a warmer material than common brick. I mention this to correct the general opinion that brick is a slow conductor, and therefore a greater thickness of that material should be used in forming the walls of our houses; hence it is that the brick walls so often neither afford protection from the cold of winter, nor the heat of summer.

"It will be observed that the specific heats have been compared with water as 1; therefore, if we reflect upon the capacity of water for absorbing heat, it very much exceeds all the substances with which it is compared. Water, therefore, becomes a reservoir for heat upon the surface of the globe; islands being surrounded by this reservoir, are preserved of a more equable temperature than main lands. It was the knowledge of this which led Gauss to the conclusion that there must be a vast continent at the South Pole. That great current, universally bearing in one direction from south to north, the 'Gulf Stream,' transports an enormous quantity of heat from the Equator towards the North Pole, running at the rate of four miles per hour, and retaining for a thousand miles, from the Straits of Baffin, a temperature of ten degrees warmer than the air, and maintaining an open sea, in the meridian of East-Greenland and Spitzbergen, moderating the cold of all the lands in that inhospitable region. What has thus been going on for ages in the great scale of nature, is now made applicable in miniature, where water is used to warm the different apartments in our habitations, receiving a great amount of heat at a given point, and circulating through narrow chambers in pipes, yielding back that heat to the surrounding medium.

"In reference to the conducting power of malm and stock brick, I will for the sake of plain brick be placed twelfth in the scale, and malm brick the sixteenth; it is, therefore, so much colder as a shield from the weather. From this circumstance I would remark, that when this brick (malm) is used to case a building (as is now commonly done), the walls should be constructed proportionably thicker, or we render the house so much colder. The absorbing power also of this brick for heat is very low, being placed thirteenth in the scale in Table IX. (third column); therefore we may conclude that malm brick is more a substance to please the eye for building than useful as a protection against the escape of heat; and

what applies to the escape of heat will bear a similar relation to the protection against the cold of our climate.

"It is curious to observe how low in the scale hair and lime is placed, both as to the conduction and capacity for heat. If fired over the chimney from the table, and used as the quickest conductor and the lowest specific heat, proving that the compound is ill adapted to line our rooms, as far as concerns the preservation of heat. The best property of Roman cement, from these tables, certainly appears to be that of its slow conducting power, and therefore it is much better adapted to encase brick houses than malm brick; and as far as regards their relative absorbing power for moisture, the difference is not very great, being in the relation of (omitting the decimals) 133 of the former to 116 of the latter. But in this humid climate, the absorption of moisture is a most important consideration for all who erect habitations with a view of combining comfort with the order of architecture. Too often is it to be seen that the former, not to say yields to, but is totally neglected for the sake of the latter. One of the great existing causes of corruption, that most common disease, as I believe, must generally produced by the ill-constructed order of our habitations. Were air visible, we should wonder at witnessing the cascade (if I may be allowed to use this term) that is maintained between the windows and doors towards the fire-place, in the midst of which we are compelled to exist, and when experiencing this we draw to wards the very part of the room where the current is strongest; to that imaginary circle which encompasses the fire,—here the evil is increased."

The above copious extracts from this small tract will give some idea of the valuable practical philosophy relating to architecture contained in it: few pages; but much greater promise is held out by the author in his concluding observations, which are as follow:—

"With these remarks I leave the subject for the present, intending to enter more into it in a work which will shortly appear on the 'Construction, Heating, and Ventilation of Public and Private Buildings;' a topic which has lately engaged much of the public attention, and on which many revived theories have been brought to the test of experiment as newly discovered; but which, it will be obvious from a perusal of the work in question, are, in point of fact, some of very ancient date, and not one of recent invention, more especially those now in use in the ventilation of public buildings."

We doubt not the author's numerous, extensive, and successful experiments will prove a useful addition to the knowledge of practical architecture. We therefore recommend an attentive perusal of this work, which, though small, is a condensation of a great deal of scientific work; and no doubt he who does peruse it will desire anxiously to see forthcoming Mr. Hutchinson's other works.

## F.

## HOSPITAL OF ST. CROSS, WINCHESTER.

If the Hospital of St. Cross is reformed at all, it must be by the pressure from without. Public opinion must be brought to bear upon it, and public spirit and public honesty be set in array against the present monstrous mode of applying its revenues. It is a rare privilege for a paralytic man in our own city; and the numerous who attended the exertions of those public-spirited individuals who rescued the management of St. John's Hospital and other charities from the old corrupt Corporation of Winchester, should stimulate others to do likewise. St. John's Hospital, like the Hospital of St. Cross, once maintained both old and women, with but an indifferent allowance; while its revenues were expended for the benefit of its masters—the mayor and aldermen of Winchester. Suits in Chancery were commenced against the corporation, notwithstanding that they were appointed, by the testaments of the endowments, the managers and controllers of the charities through all time, just as is the present Bishop of Winchester the controller, the responsible controller, of St. Cross. Those suits were, after much vexatious opposition and delay, successful against the corrupt trustees, and the control they had abused was taken from them and given to others nominated by the Lord Chancellor. And what is the result?

Twenty-six persons are now comfortably lodged and fed; a new almshouse is built; the revenues are rapidly increasing; the charity is now a far more valuable one than it was in the time of the late Lord Rivers; and all this good has been effected by the disinterested and philanthropic exertions of a few men who sought no other reward than the approval of their own consciences, and the approbation of all honest men. A similar course would be, we think, successful in the case of St. Cross; and in these times of reform and improvement, when associations are formed for the carrying out of almost every conceivable mode for benefiting the poor, and removing the plague-spots of ignorance and pauperism from the land, surely there are those who will lend a hand to such a noble and desirable object. The preachers of this faith of which the noble master of St. Cross is also a teacher, tell us from their pulpits that "he who giveth to the poor leadeth to the Lord." What he does and deserves who taketh from the poor we may imagine. But surely a gift to the poor which produces more abundant return can hardly be found, than would a mite contributed to a fund for instituting suits in Chancery for the restoration of the funds of St. Cross Hospital to their original uses and intentions. We have merely thrown this out as a hint which we hope will be acted on. We can see on reason why the Hospital of St. Cross should be exempted from the power which has searched and reformed other public charities. We know that no charitable institution ever needed it more, and we hope yet to see it what it ought to be—an extensive asylum for the poor and destitute; a means of assistance to the hungry and thirsty wayfarer and wanderer.—*Hants Independent.*

## STATUE OF THE QUEEN AT EDINBURGH.

Two magnificent statue of Queen Victoria, executed by our celebrated sculptor, Mr. Steele, and which workmen have been employed for some time past in erecting on the top of the grand portion of the Royal Institution Building immediately behind the apex, were opened to public view on the evening of Tuesday, and in the course of Wednesday was eagerly gazed upon by numerous groups passing along the fine promenade of Prince's-street. It called forth general admiration, although there were not wanting individuals to make objections in reference to various supposed faults in the design, which, however, none of these hyper-critics could very satisfactorily explain. As we have said, the statue was the subject of general admiration. Our Most Gracious Sovereign is here represented wearing a simple coronet, but in her robes of state, which are draped in such a way as to give a general idea of Britannia, as seen on the coins of the realm, while the bust and features most strikingly resemble those of the Queen. The neck and head are truly graceful, and the form classical and commanding. The height of the statue and base is 18 feet, while the length of the base (the flowing robes resting upon it) is about 20 feet. Her Majesty is here represented in a sitting posture, her left hand leaning on the orb, while from her right hand, covered by the drapery, appears the point of the sceptre, resting on the arm. The Queen is looking up Hanover-street, towards the statue of George IV., her royal uncle, in the centre of George-street. The statue adds greatly to the architectural magnificence of the Royal Institution Building; and, when viewed from the west, forms a fine leading point for the Scott Monument and other interesting objects in the vista. It is creditable to the institution, and will no doubt serve to extend the fame of the clever sculptor.—*Calcuttian Mercury.*

## MONUMENT TO DR. HARVEY, FOLKESTONE.

It is in contemplation to erect a monument in subscription to the memory of the celebrated Doctor Harvey, the discoverer of the circulation of the blood, &c., and several respectable inhabitants are actively engaged in collecting funds in order to raise a monument to their illustrious townsman. Dr. Harvey was born in Folkestone, and it is intended to erect the monument on the spot of his birth-place.

A ROYAL COMPOSER.—A portion of the musical service at George's Chapel, on Sunday last, was the composition of Prince Albert.